REMARKS

Claims 1-6, 12-18 and 20-78 were presented for examination, of which claims 1, 5, 12, 17, 24, 32, 34, 43, 52, 61, 66, and 70 are independent. Claims 1, 2, 4-6, 12, 13, 15, 17-18, 21, 23-24, 28, 32, 34, 43-49, 52-58, 60-61, 66-71 and 74 have been amended without prejudice or disclaimer. Claims 3, 14, 20, 25-27, 31, 33, 41, 50, and 59 are canceled herein without prejudice or disclaimer. Claims 7-11 and 19 were previously canceled.

I. Amendments to the Claims

Applicants amend claim 1 to recite representing the function graphically such that the function is graphically represented separately from the at least one state and the at least one transition in the graphical representation of the finite state machine. Applicants amend claims 5, 12, 17, 24, 32, 34, 43, 52, 61, 66, 70 and 74 in a similar manner. Support for this amendment can be seen in Figures 4 and 9, and in the Specification at paragraphs [0021]-[0024] and at [0034]-[0035].

In addition, Applicants amend claim 1 to recite:

> wherein the function that is represented graphically ***has a function prototype that specifies a syntax for invoking the function, the function prototype specifying a function name for the function, and the*** function is defined in a graphical language; and
>
> calling the function that is represented graphically ***by the function name according to the syntax specified by the function prototype*** from within the graphical representation of the finite state machine.

Claims 5, 12, 17, 24, 32, 34, 43, 52, 61, 66, 70 and 74 are amended to recite elements similar to those quoted above. Support for these amendments can be found in the Specification at paragraphs [0021], [0023], [0035]-[0036] and Figure 4.

Applicants amend claims 4, 15, and 21 to clarify that the function flow diagram graphically defines a procedure performed by the function.

Applicants amend claims 2, 6, 13, 18, 23, 28, 34, 44-49, 53-58, 60, 67-69, and 71 to better claim the invention.

II. Response to Arguments

In the Office Action, the Examiner states that "it is unclear what is meant by 'separately' in the context of the Applicants' claim and arguments." Applicants amend claim 1 to recite representing the function graphically such that the function is graphically represented separately from the at least one state and the at least one transition in the graphical representation of the finite state machine. Applicants amend claims 5, 12, 17, 24, 32, 34, 43, 52, 61, 66, 70 and 74 in a similar manner. Applicants urge that this amendment clarifies what is meant by "separately" in the context of these claims.

III. Claim Rejections under 35 U.S.C. §102

In the Office Action, claims 1-6, 12-18 and 20-78 have been rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent Publication No. 2002/0083413 to Kodosky et al. (hereafter "Kodosky"). Applicants respectfully traverse this rejection.

A. Claims 1 and 5

Applicants submit that Kodosky does not disclose, either explicitly or implicitly, at least the following features of claims 1 and 5: (1) ***the function is graphically represented separately from the at least one state and the at least one transition in the graphical representation of the finite state machine***, (2) ***has a function prototype that specifies a syntax for invoking the function, the function prototype specifying a function name for the function***; and (3) ***calling the function that is represented graphically by the function name according to the syntax specified by the function prototype***. For ease of discussion, each of these features is discussed separately below.

1. Kodosky does not disclose that "the function is graphically represented separately from the at least one state and the at least one transition in the graphical representation of the finite state machine."

In the Office Action, the Examiner asserts that Kodosky discusses representing a function graphically and separately from a state and transition at paragraph [0165] and Figure 19. (Office Action at page 7). However, what the examiner points to in Kodosky, are states of a state diagram,

not functions. In contrast, claims 1 and 5 recite that the function is graphically represented separately from the at least one state and the at least one transition.

The Examiner cites Kodosky at [0165] (and the associated Figure 19) as discussing representing the at least one function graphically. The Examiner states that in Kodosky the states of the block diagram (represented by icons) can be construed as functions. That is, the Examiner alleges that functions and states are equivalent. This is not the case, as the Applicants had argued in their last Response (Response to July 31, 2007 Office Action at pages 17-18, Section G). The Examiner has not addressed this argument explicitly in the most recent Office Action.

Representing a function separately from the at least one state and the at least one transition in the graphical representation of the finite state machine allows a user to call those functions in more than one context. The ability to reuse a function means that a user can define a function once, and then utilize that function again in different contexts, which improves efficiency and decreases the amount of space needed to store a program. For example, the Applicants' Specification notes that "any state or transition action that is in the scope of a graphical function can invoke that function." (Application at [0068]). This allows code to be reused if, for instance, State A, State B, and Transition A-B all needed to perform a similar task.

In contrast, Kodosky describes a system in which what the Examiner calls "functions" are actually states in a state diagram. The instructions that execute when a state is active need to be rewritten for every state that utilizes those instructions. Moreover, such code could not be utilized in a transition action, as could be done by the methods of claims 1 and 5, which recite that ***the function is graphically represented separately from the at least one state and the at least one transition***.

None of the cited paragraphs of Kodosky disclose representing the function ***separately*** from the state and the at least one transition in the finite state machine. The Examiner asserts that the states containing instructions that execute when a state is active, as described by Kodosky in paragraph [0165], constitute "functions." (OA at page 6; July 31, 2007 Office Action at page 2, stating "the states can be construed as functions."). This interpretation likely

stems from a passage in Kodosky at [0017], which notes that "each ***state*** may ***represent*** some instruction or sequence of instructions that is executed when the state is 'active.'" However, the "instructions" in Kodosky are tied to the states that represent them and are not invocations of separately defined graphical functions. There is no teaching or suggestion in Kodosky of functions that are represented separately from the states. Figure 19 shows states, but no graphical functions represented separately from the at least one state and the at least one transition in the finite state machine. Figure 19 clearly shows that the instructions are defined solely within the "Number is Not Prime" state. Therefore, Kodosky does not disclose functions that are graphically represented separately from a state or a transition.

2. **Kodosky does not disclose that the function "has a function prototype that specifies a syntax for invoking the function, the function prototype specifying a function name for the function."**

Applicants amend claim 1 to recite wherein the function that is represented graphically has a function prototype that specifies a syntax for invoking the function, the function prototype specifying a function name for the function. Applicants amend claim 5 to recite wherein the function is represented graphically as a diagram comprising graphical elements and has a function prototype that specifies a syntax for invoking the function, the function prototype specifying a function name for the function. Kodosky does not disclose these elements of claims 1 and 5. As discussed above the alleged "functions" in Kodosky are actually states. These states do not include a function prototype that specifies a syntax for invoking the function. There is no teaching in Kodosky about defining separate functions represented graphically.

3. **Kodosky does not disclose "calling the function that is represented graphically by the function name according to the syntax specified by the function prototype from within the graphical representation of the finite state machine."**

Applicants amend claims 1 and 5 to recite calling the function that is represented graphically by the function name according to the syntax specified by the function prototype from within the graphical representation of the finite state machine. Applicants respectfully submit that Kodosky does not disclose this feature of claims 1 and 5.

The Examiner cites Kodosky at [0165]-[0166] as discussing "calling the function that is represented graphically." However, in the cited passages, the graphical code is not called ***by the function name***. The example cited by the Examiner shows a block diagram where a user has manually added graphical code to specify program instructions to execute when a particular state is active. (Kodosky at [0165]). The cited example in Kodosky establishes that the graphical code added by the user is not itself named, and is not invocable by name. The underlying graphical code is invoked only when the state it is associated with is active. (Kodosky at [0165]). Therefore, Kodosky does not disclose calling the function that is represented graphically by the function name according to the syntax specified by the function prototype from within the graphical representation of the finite state machine.

For reasons set forth above, Applicants respectfully request that the Examiner reconsider and withdraw the 35 U.S.C. §102(e) rejection of claims 1 and 5.

B. Claims 2-4 and 6

Applicants' claims 2-4 and 6 depend from claim 1 and, as such, incorporate the subject matter of claim 1. Applicants urge that claims 2-4 and 6 are in condition for allowance for at least the reasons set forth above regarding claim 1.

Furthermore, Applicants urge that Kodosky does not disclose, either explicitly or implicitly, ***modifying the function through graphical diagramming***, which is present in claim 6. The Examiner claims that Kodosky discloses this feature at paragraph [0010]. (Office Action, page 4). Applicants respectfully disagree.

At paragraph [0010], Kodosky describes a graphical programming environment where a user can create a graphical program by interconnecting icons in a block diagram. The Examiner claims that the states of the block diagram (represented by the icons in this case) "can be construed as functions." Kodosky, however, does not disclose ***modifying the function through graphical diagramming***. Paragraph [0010] merely describes modifying the *state diagram* through graphical diagramming, not modifying *the at least one function*. In paragraph [0010], a user "places or manipulates icons," but does not modify the functions that the Examiner alleges are represented by those icons.

For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claims 2-4 and 6.

C. **Claims 12 and 17**

Claims 12 and 17 recite the graphical function having a function prototype that specifies a syntax for invoking the function, the function prototype specifying a function name for the function. As discussed above in relation to claim 1, Kodosky does not disclose a function prototype, because Kodosky discloses states and not functions.

Further, Claim 12 recites instructions to call the graphical function by the function name according to the syntax specified by the function prototype. Claim 17 recites means to call the graphical function by the function name according to the syntax specified by the function prototype. As discussed above in relation to claim 1, Kodosky does not calling the graphical function by the function name, because Kodosky discloses states and not functions.

Further, Applicants urge that Kodosky does not disclose, either explicitly or implicitly, at least the following features of claims 12 and 17: a graphical function; and the graphical function is graphically represented separately from the at least one state and the at least one transition in the finite state machine. As discussed above, although Kodosky discloses a state diagram, Kodosky does not disclose a function that is graphically represented separately from the at least one state and the at least one transition in the finite state machine. The alleged functions of Kodosky are states themselves.

The Examiner asserts that "Applicant argues that the reference does not disclose a function call" and points to Kodosky at [0012] as discussing this feature. Applicants respectfully suggest that the Examiner misconstrues the Applicants' argument. In the July 31, 2007 Office Action, the Examiner asserted that the "Choose Number" state constituted a graphical function because it was "called" by "Start" and "Number is Not Prime." Applicants responded that the transitions the Examiner was relying on were not function calls. Applicants did ***not*** assert that the reference did not disclose a function call at all, but rather that the examples cited by the Examiner were not "called" by the "Start" and "Number is Not Prime" states, as the Examiner had asserted.

Therefore, Applicants reassert that Kodosky does not disclose a graphical function, and refer the Examiner to the argument made in their Response to the July 31, 2007 Office Action. Neither Figure 19, which the Examiner initially cited, nor paragraph [0012], which the Examiner cites in the most recent Office Action, disclose ***a graphical function*** or ***the graphical function is graphically represented separately from the at least one state or transition in the finite state machine.***

For the reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claims 12 and 17.

D. Claims 13-16

Claims 13 and 15-16 depend from claim 12 and, as such, incorporate the subject matter of claim 12. Applicants therefore submit that claims 13 and 15-16 are in condition for allowance for at least the reasons set forth above in connection with claim 12.

Applicants also submit that Kodosky does not disclose, either explicitly or implicitly, at least the following feature of claim 15: the input comprises a function flow diagram that graphically defines a procedure performed by the function. The Examiner submits that Kodosky discloses this feature at page 1, paragraph 9, lines 7-9. (Office Action, page 6). The Applicants respectfully disagree.

In their last Response, Applicants argued that the portion identified by the Examiner recites that "[t]he diagram may have one or more of data flow, control flow and/or execution flow representations." The Examiner seemed to imply that the data flow, control flow and/or execution flow representations disclosed in Kodosky are the equivalent of the Applicants' claimed ***function flow diagram that graphically defines the procedure performed by the function***. Applicants urged that the data flow, control flow and/or execution flow representations disclosed in Kodosky are not equivalent to the Applicants' claimed ***function flow diagram that graphically defines the procedure performed by the function***. As noted in the Applicants' Specification at [0024], a function flow diagram "graphically defines the procedure performed by the graphical function."

None of Kodosky's data flow, control flow, or execution flow representations are a "function flow diagram." As the term is used by those having ordinary skill in the art, a "data flow representation" is a graphical representation of the ***flow of data*** through an information system. A "control flow representation" is a representation, using graph notation, of ***all paths in the source code*** that might be traversed through a program during its execution. An "execution flow representation" is a representation of the ***order of execution*** in which the individual statements, instructions or function calls of a program are executed or evaluated. None of these representations ***graphically defines a procedure performed by a graphical function***.

For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claims 13 and 15-16. As claim 14 has been canceled, Applicants consider the rejection of this claim to be moot.

E. **Claims 18 and 20-23**

Claims 18 and 20-23 depend from claim 17 and, as such, incorporate the subject matter of claim 17. Applicants submit that claims 18 and 20-23 are in condition for allowance for at least the reasons set forth above with regards to claim 17.

Applicants also submit that Kodosky does not disclose, either explicitly or implicitly, at least the following feature of claim 21: the input comprises a function flow diagram that graphically defines a procedure performed by the graphical function. As discussed above, Kodosky does not disclose a function flow diagram.

Applicants further submit that Kodosky does not disclose, either explicitly or implicitly, at least the following feature of claims 23: means for hiding the display of the function flow diagram based upon input. The Examiner claims that "this feature can be simply seen in the graphical environment provided by the reference in which certain aspects of the graphical program or state diagram are not selected and therefore not seen in the GUI." The Applicants respectfully disagree.

As described above, Kodosky does not disclose a function flow diagram. Therefore, Kodosky cannot describe "hiding" the display of a function flow diagram. Moreover, the

Examiner alleges that "certain aspects" of the state diagram are not selected and therefore are not seen in the GUI. But the Examiner does not allege that these aspects include the function flow diagram. Some aspects may be hidden in Kodosky, but what is claimed is a means for hiding the display of the function flow diagram.

For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claims 18 and 20-23.

F. **Claims 24 and 32**

Claims 24 and 32 recite the elements of the function having a function prototype that specifies a syntax for invoking the function, the function prototype specifying a function name for the function and calling the function by the function name according to the syntax specified by the function prototype. As discussed above in relation to claim 1, Kodosky does not disclose these elements of claims 24 and 32. Because the alleged functions of Kodosky are the states themselves, Kodosky does not disclose a function prototype or calling the function by the function name.

Further, Applicants submit that Kodosky does not disclose, either explicitly or implicitly, at least the function being represented graphically such that the function is graphically represented separately from the at least one state and the at least one transition in the graphical representation of the finite state machine, which is present in claims 24 and 32. As discussed above in relation to claim 1, Kodosky does not disclose this feature of claims 24 and 32. The alleged functions of Kodosky are the states themselves. Thus, Kodosky does not disclose a function graphically represented separately from the at least one state and the at least one transition.

For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claims 24 and 32.

G. **Claims 25-31 and 33**

As claims 25-27, 31, and 33 have been cancelled, Applicants consider the rejection of those claims to be moot.

Claims 28-30 depend from claim 24 and, as such, incorporate the subject matter of claim 24. Applicants urge that claims 28-30 are in condition for allowance for at least the reasons set forth above with regards to claim 24. For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claims 28-30.

H. **Claims 34, 43 and 52**

Claims 34, 43 and 52 recite the elements of a graphical function having a function prototype that specifies a syntax for invoking the function, the function prototype specifying the function name for the function. Claim 34 recites calling the function by the function name according to the syntax specified by the function prototype. Claims 43 and 52 recite calling the graphical function by the function name according to the syntax specified by the function prototype. As discussed above in relation to claim 1, Kodosky does not disclose these elements of claims 34, 43 and 52.

Further, Applicants submit that Kodosky does not disclose, either explicitly or implicitly, at least the following feature of claim 34: the function is graphically represented separately from the at least one of the states and the at least one of the transitions in the executable model. Kodosky also does not disclose at least the following feature of claims 43 and 52: the graphical function is graphically represented separately from the at least one of the states and the at least one of the transitions in the executable model. As discussed above, the alleged functions of Kodosky are the states themselves. Kodosky does not disclose any function that is graphically represented separately from the at least one state and the at least one transition in the executable model.

For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claims 34, 43 and 52.

I. **Claims 35-42**

Claims 35-40 and 42 depend from claim 34 and, as such, incorporate the subject matter of claim 34. Applicants submit that claims 35-40 and 42 are in condition for allowance for at least the reasons set forth above in connection with claim 34.

For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claims 35-40 and 42. As claim 41 has been canceled, Applicants consider the rejection of this claim to be moot.

J. **Claims 44-51**

Claims 44-49 and 51 depend from claim 43 and, as such, incorporate the subject matter of claim 43. Applicants submit that claims 44-49 and 51 are in condition for allowance for at least the reasons set forth above with regards to claim 43.

For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claims 44-49 and 51. As claim 50 has been canceled, Applicants consider the rejection of this claim to be moot.

K. **Claims 53-60**

Claims 53-58 and 60 depend from claim 52 and, as such, incorporate the subject matter of claim 52. Applicants submit that claims 53-58 and 60 are in condition for allowance for at least the reasons set forth above with regards to claim 52.

Applicants also submit that Kodosky does not disclose, either explicitly or implicitly, at least the following feature of claim 57: ***the function comprises two or more graphical elements***. The Examiner claims that Kodosky discloses this feature at paragraphs [0009] and [0010] and Figure 8 "which contains multiple graphical elements." (Office Action, page 5).

While these paragraphs might discuss multiple graphical elements, that is not what is claimed. What is claimed is ***the function comprises two or more graphical elements***. None of the cited paragraphs or figures disclose a ***function*** that comprises two or more graphical elements.

For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claims 53-58 and 60. As claim 59 has been canceled, Applicants consider the rejection of this claim to be moot.

L. **Claims 61 and 66**

Claims 61 and 66 recite the elements of textually referencing the graphically represented function by the function name according to the syntax specified by the function prototype. As discussed above in relation to claim 1, Kodosky does not disclose these elements of claims 61 and 66.

Further, Applicants submit that Kodosky does not disclose, either explicitly or implicitly, at least the following features of claims 61 and 66: the executable model including at least one state and at least one transition, the function being represented graphically such that the function is graphically represented separately from the at least one state and the at least one transition in the executable model.

As discussed above, Kodosky does not disclose, either explicitly or implicitly, a function being represented graphically such that the function is graphically represented separately from the at least one state and the at least one transition in the executable model. The alleged functions of Kodosky are the states themselves, and thus they are not graphically represented separately from the at least one state and the at least one transition in the executable model.

Further, in their last Response, Applicants argued that Kodosky does not disclose textually referencing the graphically represented function within the model to cause an invocation of the graphically represented function during execution of the model, which was present in claims 61 and 66. The Examiner has not addressed this argument. Applicants reassert that Kodosky does not disclose ***textually referencing the graphically represented function by the function name according to the syntax specified by the function prototype within the model to cause an invocation of the graphically represented function during execution of the model***, which is present in amended claims 61 and 66.

For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claims 61 and 66.

M. Claims 62-65 and 67-69

Claims 62-65 depend from claim 61 and, as such, incorporate the subject matter of claim 61. Applicants submit that claims 62-65 are in condition for allowance for at least the reasons set forth above with regards to claim 61. Therefore, Applicants respectfully request that the Examiner withdraw the above rejection of claims 62-65.

Claims 67-69 depend from claim 66 and, as such, incorporate the subject matter of claim 66. Applicants submit that claims 67-69 are in condition for allowance for at least the reasons set forth above in connection with claim 66. Therefore, Applicants respectfully request that the Examiner withdraw the above rejection of claims 67-69.

N. Claim 70

Claim 70 recites the element of means for textually referencing the function defined graphically by the function name according to the syntax specified by the function prototype. As discussed above in relation to claim 1, Kodosky does not disclose these elements of claim 70.

Further, Applicants submit that Kodosky does not disclose, either explicitly or implicitly, at least the following features of claim 70: the executable model including at least one state and at least one transition, the function being represented graphically such that the function is graphically represented separately from the at least one state and the at least one transition in the executable model and textually referencing the function defined graphically by the function name according to the syntax specified by the function prototype within the model to cause an invocation of the function during execution of the model.

As discussed above, Kodosky does not disclose, either explicitly or implicitly, the function is graphically represented separately from the at least one state and the at least one transition in the executable model. The alleged functions of Kodosky are the states themselves.

Additionally, as discussed above, Kodosky does not disclose, either explicitly or implicitly, textually referencing the function defined graphically. Also, Kodosky does not disclose a graphically represented function.

For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claim 70.

O. Claims 71-73

Claims 71-73 depend from claim 70 and, as such, incorporate the subject matter of claim 70. Applicants submit that claims 71-73 are in condition for allowance for at least the reasons set forth above in connection with claim 70. Therefore, Applicants respectfully request that the Examiner withdraw the above rejection of claims 71-73.

P. Claim 74

Claim 74 recites the element of a graphical representation of the model including a textual reference of the graphical function by the function name according to the syntax specified by the function prototype. As discussed above in relation to claim 1, Kodosky does not disclose a function prototype.

Further, Applicants submit that Kodosky does not disclose, either explicitly or implicitly, at least the following feature of claim 74: the executable model including at least one state and at least one transition, the graphical function being represented graphically such that the graphical function is represented separately from the at least one state or transition in the executable model. As discussed above, Kodosky does not disclose, either explicitly or implicitly, a function that is represented graphically such that the function is graphically represented separately from the at least one state and the at least one transition in the executable model. The alleged functions of Kodosky are the states themselves.

For reasons set forth above, Applicants respectfully request that the Examiner withdraw the above rejection of claim 74.

Q. Claims 75-78

Claims 75-78 depend from claim 74 and, as such, incorporate the subject matter of claim 74. Applicants submit that claims 75-78 are in condition for allowance for at least the reasons

set forth above in connection with claim 74. Therefore, Applicants respectfully request that the Examiner withdraw the above rejection of claims 75-78.

CONCLUSION

In view of the above amendment, Applicants believe the pending application is in condition for allowance and urges the Examiner to pass the claims to allowance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicants' attorney at (617) 227-7400.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080 under Order No. MWS-070RCE. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned thereby petitions under 37 C.F.R. §1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

Dated: April 30, 2008

Respectfully submitted,

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